

REMARKS

Claims 1, 2, 4, 5 and 7-20 are presently pending in the subject application. These claims have been examined in the second Office Action. Claims 1, 2, 4, 5, 7, 15-18 and 20 stand rejected, and claims 8-14 and 19 are objected to. By the above amendments, claims 1 and 20 have been amended. Favorable reconsideration of the application and allowance of all of the pending claims are respectfully requested in view of the above amendments and the following remarks.

Applicant acknowledges and appreciates that the rejections in the first Office Action (Paper No. 4) have been withdrawn. Applicant further acknowledges and appreciates the Examiner's indication that claims 8-14 and 19 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Initially, Applicant notes that a proposed drawing correction was submitted with the last Amendment on May 28, 2003. However, no indication has been made in the present Office Action regarding whether the proposed drawing correction has been accepted. The Examiner is requested to provide an indication as to whether the proposed drawing correction has been accepted in the next official communication.

In addition, it is noted that a number of Information Disclosure Statements (IDSs) have been submitted prior to the mailing dates of the second Office Action. However, only a portion or none of these IDSs have been initialed by the Examiner and returned to Applicant with the second Office Action. Copies of the IDS papers that have been filed prior to the mailing date of the second Office Action are attached to this Amendment and are as follows: 1. Supplemental IDS filed May 14, 2003 (only the first page of the two page IDS was initialed and returned with the second Office Action); 2. Supplemental IDS filed June 27, 2003; and 3. Supplemental IDS filed August 12, 2003. The Examiner is requested to initial the references listed in each IDS and return a copy of the IDS with the next official communication. Although copies of the references were provided with the initial filing of each IDS, the Examiner can obtain any reference copies needed for review by contacting the undersigned.

Claims 1 and 7 stand rejected under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Lobovsky et al. (U.S. 2002/0113335). In addition, claims 1, 2, 4, 5, 7, 17, 18 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bonard et al. ("Purification and Size-Selection of Carbon Nanotubes . . .") in

view of Lobovsky et al.; Claim 18 is further rejected under 35 U.S.C. § 103(a) as being unpatentable over Bonard et al. in view of Lobovsky, and further in view of Heer et al. ("Aligned Carbon Nanotube Films . . ."); and Claims 1, 15 and 16 rejected under 35 U.S.C. § 103(a) as being unpatentable over Smalley et al. (US 2003/0133865). Applicant respectfully traverses the rejections of these claims as applied to the amended claims and in view of the following remarks.

Amended claims 1 and 20 recite methods for isolating or purifying single walled carbon nanotube structures by mixing the structures in a solution including an effective amount of a dispersal agent, where the dispersal agent is selected from the group consisting of detergents having a hydrophilic-lipophilic balance value no greater than about 13.2, deoxycholates, taurocholic acid, cyclodextrins, chaotropic salts, poloxamers, sapogenin glycosides, and combinations thereof. It is respectfully submitted that none of the cited references relied upon by the Examiner disclose or suggest the combined features of amended claim 1 or amended claim 20.

Lobovsky et al. discloses the use of sodium dodecyl sulfate (SDS) and other specific cationic and nonionic surfactants (see paragraph [0050] of Lobovsky et al.) to obtain a dispersion of nanotubes. However, there is no disclosure or suggestion in Lobovsky et al. of the use of any of the dispersal agents recited in claims 1 and 20. In particular, there is no disclosure or suggestion of a detergent having a hydrophilic-lipophilic balance value no greater than about 13.2 as asserted by the Examiner. The Examiner's assertion that some of the surfactants taught in Lobovsky et al. are expected to have such an HLB value is unreasonable, since, without any explicit teaching, it is just as likely that these surfactants have a hydrophilic-lipophilic balance value that is greater than 13.2. In fact, Lobovsky et al. specifically teaches the use of SDS which, as noted in Applicant's specification (page 14), has an HLB value of 40. Thus, it is more reasonable to assume, without any additional teaching, that the other cited surfactants of Lobovsky et al. would have an HLB value similar to SDS (i.e., greater than 13.2). Accordingly, the Examiner is requested to withdraw the rejection of claim 1 as being anticipated or obvious based upon the teachings of Lobovsky et al.

Further, the combination of Bonard et al. with Lobovsky et al. does not make up for the noted deficiencies of Lobovsky et al., and, therefore, should not render obvious claims 1 and 20. As acknowledged by the Examiner, and as noted in the previous Amendment, Bonard et al. specifically discloses the use of SDS. However, the Examiner asserts that it would have been

obvious to achieve the nanotube suspensions of Bonard et al. utilizing the disclosed surfactants of Lobovsky et al. Even assuming it is reasonable for one skilled in the art to combine the teachings of Bonard et al. and Lobovsky et al., such a combination would still not render obvious the recited features of claims 1 and 20. As previously noted, Lobovsky et al. does not disclose or suggest the recited dispersal agents of claims 1 and 20. Accordingly, the Examiner is requested to withdraw the rejection of these claims as being obvious based upon the combined teachings of Bonard et al. and Lobovsky et al.

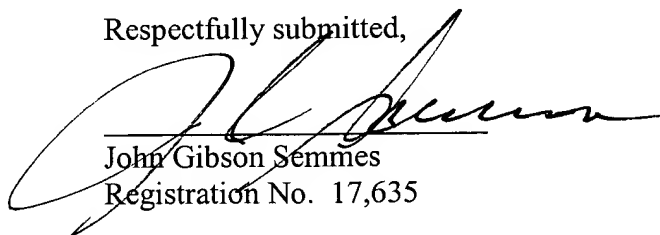
Smalley et al., discloses dispersing single-walled carbon nanotubes using sulfonic acids (see paragraph [0043] of Smalley et al.). However, there is no disclosure or suggestion in Smalley et al. of the use of any of the dispersal agents recited in amended claims 1 and 20. Accordingly, the Examiner is requested to withdraw the rejection of these claims as being obvious based upon Smalley et al.

Claims 2, 4, 5, 7 and 15-18 each depend, either directly or indirectly, from claim 1. Accordingly, the Examiner is requested to withdraw the rejection of these claims based upon the previous remarks.

In view of the foregoing, Applicant respectfully requests the Examiner to find the application to be in condition for allowance with claims 1, 2, 4, 5 and 7-20. However, if for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is respectfully requested to call the undersigned attorney to discuss any unresolved issues and to expedite the disposition of the application.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee for such extension is to be charged to Deposit Account No. 05-0460.

Respectfully submitted,



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